

# STEPHANIE L. GRELLA, PH.D.

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## CURRENT POSITION

### Assistant Professor / Primary Investigator (Tenure Track)

Loyola University Chicago, Dept. Psychology, Neuroscience Program  
*The Memory and Neurobiological Mechanisms Lab (MNEME)*

**Aug 2022 – present**  
Chicago, IL, USA

## EDUCATION

### Postdoctoral Associate - Dr. Steve Ramirez

Boston University, Dept. of Psychological & Brain Sciences

**July 2017 – Aug 2022**  
Boston, MA, USA

### Postdoctoral Associate - Dr. Steve Ramirez

Harvard University, Center for Brain Sciences

**Jan 2017 – July 2017**  
Boston, MA, USA

### Ph.D.: Behavioural Neuroscience - Dr. Diano F. Marrone

Wilfrid Laurier University, Dept. of Psychology

**Sep 2012-Dec 2017**  
Waterloo, ON, Canada

### M.Sc.: Neuroscience and Toxicology - Dr. Francesco Leri

University of Guelph, Dept. of Psychology

**Sep 2008-Aug 2010**  
Guelph, ON, Canada

### Hon B.Sc.: Psychol, Biol & Physiol - Dr. Alison S. Fleming & Dr. Robert Gerlai

University of Toronto

**Sep 2004-May 2008**  
Mississauga, ON, Canada

## SELECT PAST POSITIONS

### Adjunct Faculty Member

Massachusetts College of Pharmacy and Health Sciences (MCPHS)

**July 2019 – July 2020**  
Boston, MA, USA

### Research Assistant

Centre for Addiction & Mental Health

**Sep 2010 – Dec 2011**  
Toronto, ON, CAN

### Animal Surveillance Technician

University of Guelph – Ontario Veterinary College, Animal Care Services

**Sep 2009 – Aug 2010**  
Guelph, ON, CAN

### Programs Research Assistant (Grants)

Boys and Girls Clubs of Canada

**Apr 2006 – Apr 2007**  
Markham, ON, CAN

## PUBLICATIONS (\*Corresponding; \*\*Co-First)

**20. Grella SL**, Groves I, Hardt OM, Harley CW, Nadel L. (submitted to Trends in Neuroscience) The locus coeruleus, prediction errors, and memory updating.

**19. Grella SL\***, Donaldson TN (2024) Contextual memory engrams, and the neuromodulatory influence of the locus coeruleus. *Frontiers in Molecular Neuroscience*. 17: 1343622.

**18. Grella SL**, Fortin AH, Reusch E, Bladon J, Reynolds L, Gross A, Shpokayte M, Cincotta C, Zaki Y, & Ramirez S (2022) [Artificially reactivating hippocampus-mediated memories during reconsolidation to disrupt fear](#). *Nature Communications* 13:4733. (Also [Biorxiv](#))

**17.** Shpokayte M, McKissick O, Guan X, Yuan B, Rahsper B, Fernandez F, Reusch E, **Grella SL**, Liu SX, White J, & Ramirez S (2022). Hippocampal cells segregate positive and negative engrams. *Communications Biology*, 5:1009. (Also [Biorxiv](#))

**16.** Zaki Y\*\*, Mau W\*\*, Cincotta C\*\*, Monasterio A, Odom E, Doucette E, **Grella SL**, Merfeld E, Shpokayte M, & Ramirez S (2022). [Hippocampus and amygdala fear memory engrams re-emerge after contextual fear reinstatement](#). *Neuropsychopharmacology*, <https://doi.org/10.1038/s41386-022-01407-0> (Also [Biorxiv](#))

15. **Grella SL\***, Gomes SM, Lackie RE, Renda B, Marrone DF (2021) [Norepinephrine as a memory reset signal. Behavioural Pharmacology](#), 32: 531-548. (Also [Biorxiv](#))
14. Doucette E\*\*, Merfeld E\*\*, Leblanc H, Monasterio A, Cincotta C, **Grella SL**, Logan J, Ramirez S (2020) [Social behavior in mice following chronic optogenetic stimulation of hippocampal engrams. Neurobiology of Learning and Memory](#), 176: 107321. (Also [Biorxiv](#))
13. Cincotta C\*\*, Murawski NJ\*\*, **Grella SL**, McKissick O, Doucette E, Ramirez S (2020) [Chronic activation of fear engrams induces extinction-like behavior in ethanol-exposed mice. Hippocampus](#), 31(1): 3-10. (Also [Biorxiv](#))
12. **Grella SL**, Fortin AH, McKissick O, Leblanc H, & Ramirez S (2020) [Odor modulates the temporal dynamics of fear memory consolidation. Learning & Memory](#), 27: 150-163. (Also [Biorxiv](#))
11. Chen B\*\*, Murawski NJ\*\*, Cincotta C, McKissick O, Hamidi A, Merfeld E, Doucette E, **Grella SL**, Shpokayte M, Zaki Y, Fortin AH, & Ramirez, S (2019) [Artificially enhancing and suppressing hippocampus-mediated memories. Current Biology](#), 29(11): 1885-1894 e4.
10. **Grella SL\***, Neil J, Strong VD, Edison H, Odintsova IV, Martin G, Walling S, Marrone DF, & Harley CW (2019) [Locus coeruleus phasic, but not tonic, activation initiates global remapping in a familiar environment. Journal of Neuroscience](#), 39(3):445-455.
9. Sherry DF, **Grella SL**, Guigueno MF, White DJ & Marrone DF (2017) [Are there place cells in the avian hippocampus? Brain, Behaviour & Evolution](#), 90(1) 73-80.
8. Maple AM, Lackie R, Elizalde S, **Grella SL**, Dampousse CC, Colin X, Gallitano AL, & Marrone DF (2017) [Attenuated late-phase Arc transcription in the dentate gyrus of mice lacking Egr3. Neural Plasticity](#), Vol 2017, 6063048.
7. **Grella SL**, Guigueno MF, White DJ, Sherry DF, & Marrone DF (2016) [Context-dependent Egr1 expression in the avian hippocampus. \(2016\). Plos One](#), 11(10): e0164333.
6. **Grella SL**, Funk D, Coen K, Li Z, & Lê AD (2014) [Role of the kappa opioid receptor system in stress-induced reinstatement of nicotine seeking in rats. Behavioural Brain Research](#). 265:188-197.
5. Zhou Y, Leri F, **Grella SL**, Aldrich JV, & Kreek MJ (2013) [Involvement of dynorphin and kappa opioid receptor in yohimbine-induced reinstatement of heroin seeking in rats. Synapse](#), 67: 358-361
4. **Grella SL**, Levy A-M, Campbell A, Djazayeri S, Goddard B, Allen CA, & Leri F (2011) [Oxycodone dose-dependently imparts conditioned reinforcing properties to discrete sensory stimuli in rats. Pharmacological Research](#). 64(4): 364-370.
3. **Grella SL**, Kapur N, & Gerlai R (2010) [A Y-maze choice task fails to detect alcohol avoidance or alcohol preference in zebrafish. International Journal of Comparative Psychology](#), 23, 26-42.
2. Afonso VM, **Grella SL**, Chatterjee D, & Fleming AS (2008) [Previous maternal experience affects accumbal dopaminergic responses to pup stimuli. Brain Research](#). 1198, 115-123.
1. Burton CL, Chatterjee D, Chatterjee-Chakraborty M, Lovic V, **Grella SL**, Steiner M, & Fleming AS (2007) [Prenatal restraint stress and motherless rearing disrupts expression of plasticity markers and stress induced corticosterone release in adult female Sprague-Dawley rats. Brain Research](#). 1158, 28-38.

## AWARDS & HONORS

Nominated for Outstanding SSO Advisor Award	Mar 2024
International Conference on Learning and Memory NIH Travel Fellowship (\$2000)	Mar 2023
Chicago Society for Neuroscience CSFN Program Cover Art Winner	Mar 2023
Candidate for the St. Ignatius of Loyola Award for Teaching Excellence	Dec 2022
NSF Advance Luc Inspired Micro Grant HRD-2121654 (\$1500)	Oct 2022
Graduate Women in Science (GWIS) Fellowship Honorable Mention	Jun 2022
1 <sup>st</sup> place winner – NIH BRAIN Initiative Show Us Your BRAINs! Photo / Video Contest	Jun 2022
Society for Neuroscience Trainee Professional Development Award (\$1,000)	Sep 2017
Horizon Fund (\$500)	Dec 2017
Dean of Graduate Studies Doctoral Dissertation Award (\$2,300)	Apr 2017
Horizon Fund (\$250)	Jan 2017
Teaching Assistant Award of Excellence (\$500)	Apr 2016
Doctoral Research Travel Award (\$1,250)	Aug 2015

Dean of Graduate & Postdoctoral Studies Scholarship (\$5,000)	Jun 2014
Conference Travel Award (\$600)	Oct 2014
Doctoral Fellowship, Ontario Mental Health Foundation (declined) (\$48,000)	Sep 2014
Laurier Graduate Scholarship (\$3,000)	Jul 2014
Alexander Graham Bell Canadian Graduate Scholarship, NSERC (\$70,000)	May 2014
Graduate Scholarship (\$8,000)	Sep 2013
Poster Award, Southern Ontario Neuroscience Conference (\$150)	May 2014
Conference Travel Award (\$650)	Oct 2012
Graduate Scholarship (\$7,000)	Sep 2012
Graduate Scholarship (\$5,000)	Sep 2010
Dean's Scholarship (\$2,500)	Sep 2009

## INVITED TALKS & PANELS

Reconsolidation Dept. of Psychiatry and Behavioral Sciences, University of Washington Invited by Dr. Paul Phillips	Apr 11, 2024
Manipulating hippocampal engrams to promote cognitive and behavioral flexibility Behavioral Neuroscience Seminar Series, Wilfrid Laurier University Invited by Dr. Jeffrey Jones	Feb 26, 2024
Manipulating hippocampal engrams to promote cognitive and behavioral flexibility Neuroscience Seminar Series, Loyola University Chicago (Maywood) Invited by Dr. Karie Scrogie	Feb 13, 2024
Manipulating hippocampal engrams to promote cognitive and behavioral flexibility Neuroscience Seminar Series, Loyola University Chicago (Lakeshore) Invited by Dr. Bob Morrison	Jan 30, 2024
Reconsolidation Dept. of Psychiatry and Behavioral Sciences, University of Washington Invited by Dr. Paul Phillips	May 25, 2023
Mitigating stress-related memory disorders through memory modulation Behavioral Neuroscience Colloquium Series, Michigan State University Invited by Jessica Lee	Mar 17, 2023
Neuroscience in a nutshell Chicago Brain Bee, Society for Neuroscience Chapter, Loyola University Chicago Invited by Dr. Bill Rochlin and Dr. Eric Goebel	Feb 11, 2023
Manipulating maladaptive memories Loyola Neuroscience Association, Loyola University Chicago Invited by Luke Baumel	Jan 31, 2023
Manipulating maladaptive memories Laboratory of Integrative Neuroscience Seminar Series, University of Illinois Chicago Invited by Dr. Mitch Roitman	Jan 19, 2023
Mitigating stress-related memory disorders through memory modulation Neuroscience Seminar Series, Rosalind Franklin University Invited by Dr. Nicole Ferrara	Dec 15, 2022
Manipulating maladaptive memories Neuroscience Seminar Series, Loyola University Chicago (Lakeshore) Invited by Dr. Bob Morrison	Dec 6, 2022
The stability and flexibility of memory traces in psychiatric disease-like states Dept. of Psychology, Tufts University Invited by Dr. Elizabeth Race	Dec 2, 2022

Immunofluorescence / Immunohistochemistry Tips and Tricks Workshop Panelist Society for Neuroscience Satellite Event Workshop, Bayfront Hotel San Diego Invited by Proteintech	Nov 13, 2022
Women in Science Careers Panel Dept. of Psychology, Virginia Tech Invited by Dr. Aparna Shah	Oct 6, 2022
Women in Neuroscience Interview Series Dept. of Psychology, Wilfrid Laurier University Invited by Dr. Chelsey Damphousse	Feb 9, 2022
Memory, models, and maladaptive conditioning Brain, Behavior & Cognition Seminar, Boston University Invited by Dr. Sam Ling	Dec 9, 2021
The stability and flexibility of memory traces in psychiatric disease-like states Neuroscience Seminar Series, Swarthmore College Invited by Dr. Catherine Norris	Dec 7, 2021
The stability and flexibility of memory traces in psychiatric disease-like states Neuroscience Seminar Series, Loyola University Chicago (Lakeshore) Invited by Dr. Bob Morrison	Nov 30, 2021
Prediction errors in memory reconsolidation Dept. of Psychology, Southern Methodist University Invited by Dr. Holly Bowen	Nov 19, 2021
Stability and flexibility of memory traces in psychiatric disease-like states Cognition, Brain, & Behavior Seminar Series, University of New Mexico Invited by Dr. Jeremy Hogeveen	Oct 23, 2020
Using positive memories to interfere with the reconsolidation of negative memories Brain, Behavior & Cognition Seminar, Boston University Invited by Dr. Marc Howard	Mar 21, 2019
Noradrenergic modulation of contextual memory Dept. of Psychology, Rutgers University Invited by Dr. Gary Aston-Jones	Mar 21, 2016
Novelty shapes hippocampal representations Dept. of Psychology, McGill University Invited by Dr. Karim Nader	Oct 27, 2015
<b>CONTRIBUTED TALKS</b>	
Resetting memories when it matters most: Manipulating maladaptive memories International Conference on Learning and Memory - Huntington Beach, CA	Apr 27, 2023
Engrams are altered during stress, aging, & anxiety Winter Conference on Brain Research - Snowbird, UT	Jan 22, 2022
Neuromodulation of hippocampal memory traces: Implications for stress disorders Society for Neuroscience - San Diego, CA	Nov 13, 2022
Using positive memories to interfere with the reconsolidation of negative memories Spring Hippocampal Conference - Taormina, Italy	June 7, 2019
Reactivating hippocampus-mediated memories to disrupt reconsolidation of fear Memory Messabout Meeting - Boston, MA	Feb 27, 2018

## TEACHING & MENTORING

### **Courses Taught**

PSY 382 / BIO 284 Behavioral & Cognitive Neuroscience, Loyola University Chicago	Spring 2024
PSY 397 Independent Research Project	Spring 2024
PSY 382 / BIO 284 Behavioral & Cognitive Neuroscience, Loyola University Chicago	Fall 2023
PSY 397 Independent Research Project	Fall 2023
PSY 382 / BIO 284 Behavioral & Cognitive Neuroscience, Loyola University Chicago	Spring 2023
PSY 397 Independent Research Project	Fall 2022
PSY 382 / BIO 284 Behavioral & Cognitive Neuroscience, Loyola University Chicago	Fall 2022
LIB 120 Intro to Psychology, Massachusetts College of Pharmacy & Health Sciences	Spring 2020
BEH 341 Biological Psychology, Massachusetts College of Pharmacy & Health Sciences	Fall 2019
PS 264 Motivation & Emotion, Wilfrid Laurier University	Spring 2016

### **Guest Lectures**

PSB856 Grad Neuropharmacology, Massachusetts College of Pharmacy & Health Sciences	Jan 23, 2021
PSB856 Graduate Neuropharmacology, Massachusetts College of Pharmacy & Health Sciences	Jan 21, 2021
PSB856 Graduate Neuropharmacology, Massachusetts College of Pharmacy & Health Sciences	Apr 15, 2020
PSB856 Graduate Neuropharmacology, Massachusetts College of Pharmacy & Health Sciences	Feb 6, 2019
PSB856 Graduate Neuropharmacology, Massachusetts College of Pharmacy & Health Sciences	Jan 31, 2018
PS363 Psychobiology Laboratory, Wilfrid Laurier University	Winter 2016
PS663 Graduate Behavioral Neuroscience Seminar, Wilfrid Laurier University	Fall 2015
PS363 Psychobiology Laboratory, Wilfrid Laurier University	Fall 2013
PS663 Graduate Behavioral Neuroscience Seminar, Wilfrid Laurier University	Winter 2014
PSY260H1 Learning & Plasticity, University of Toronto	Fall 2010
PSY4750 Motivation, University of Guelph	Winter 2010
PSY2450 Developmental Psychology, University of Guelph	Fall 2009
PSY355 Behavioural Genetics, University of Toronto	Fall 2006

### **Teaching Assistantships**

PS363 Biopsychology Laboratory, Wilfrid Laurier University	Winter 2016
PS363 Biopsychology Laboratory, Wilfrid Laurier University	Fall 2014
PS102D Intro to Psychology, Wilfrid Laurier University	Winter 2014
PS288 Behavioural Modification, Wilfrid Laurier University	Winter 2014
PS363 Biopsychology Laboratory, Wilfrid Laurier University	Fall 2013
PS296 Statistics, Wilfrid Laurier University	Winter 2013
PS295 Research Methods, Wilfrid Laurier University	Fall 2012
PSY100Y1 Intro to Psychology, University of Toronto at Mississauga	Winter 2012
PSY100Y1 Intro to Psychology, University of Toronto at Mississauga	Fall 2011
PSY399H5 Psychobiology Laboratory, University of Toronto at Mississauga	Fall 2011
NROC61 Learning and Motivation, University of Toronto at Scarborough	Fall 2011
PSYCH4750 Motivation, University of Guelph	Winter 2010
PSYCH1100 Dynamics of Behaviour, University of Guelph	Fall 2009
PSYCH1100 Dynamics of Behaviour, University of Guelph	Winter 2009
PSYCH2450 Developmental Psychology, University of Guelph	Fall 2009
PSYCH 1200 Principles of Behaviour, University of Guelph	Fall 2008

### **Student Research Advising / Research Supervision**

#### PhD Dissertation Committee: University of New Mexico

- Tia Donaldson Jan 2023- present

#### Independent Research Project: Loyola University Chicago

- Alex Stratmann Jan 2024- Apr 2024
- Molly McAnespie Jan 2024- Apr 2024
- Lola Papanikolaou Jan 2024- Apr 2024
- Hazel Edwards Sept 2023- Dec 2023
- Hussain Asgarali Sept 2023- Dec 2023
- Sofia Cañuelas del Valle Sept 2023- Dec 2023
- Kareena Dharia Aug 2022- Apr 2023

#### Undergraduate Research Students: Loyola University Chicago

- Monica Makey Jan 2024 – present

- Adam Daki Jan 2024 – present
- Zain Ahmad Jan 2024 – present
- Alex Kantz Jan 2024 – present
- Eman Rana Jan 2024 – present
- Abhiram Thati Sep 2023 – present
- William Wade Jul 2023 – present
- Morgan Brody May 2023 – present
- Aasrita Tulluri May 2023 – present
- Sofia Cañuelas del Valle Aug 2022- present
  - Presented at SfN 2023 / FUN event, Washington D.C.
- Grina Patel Aug 2022- present
  - Internship at University of Pennsylvania, Summer 2023
- Melissa Wilson Aug 2022- present
  - Post-bac internship position at NIAAA starting in June 2023
  - Presented at SfN 2023 / FUN event, Washington D.C.
  - SfN Trainee Professional Development Award
- Hazel Edwards Aug 2022- present
  - William and June Pizzi SfN Travel Award (June 2023; \$500)
  - Presented at SfN 2023 / FUN event, Washington D.C.
- Prajit Chatterjee Aug 2022- present
- Ricky Rivera Aug 2022- present
- Lola Fay Papanikolaou Aug 2022- present
  - Provost Fellowship (May-August 2023; \$3500)
  - Mulcahy Scholar Program (September 2023 – April 2024; \$2000)
- Alex Stratmann Aug 2022- present
  - Internship at Washington University in St. Louis, Summer 2023
- Molly McAnespie Aug 2022- present
  - Proteintech Service in Society Award, Memory Messabout Meeting (April 2023; \$100)
  - Mulcahy Scholar Program (September 2023 – April 2024; \$2000)
  - Internship at Lurie Children’s Hospital, Summer 2023
- Hussain Asgarali Aug 2022- present
  - William and June Pizzi SfN Travel Award (June 2023; \$500)
  - Presented at SfN 2023 / FUN event, Washington D.C.
- Sonia Arora Aug 2022- present
  - Provost Fellowship (May-August 2023; \$3500)
- Jaime Cristobal Aug 2022- Apr 2023

Undergraduate Research Assistants: Boston University

- Siria Coello Mar 2021- Aug 2022
- Abby Gross Mar 2021- Aug 2022

UROP Students: Boston University

- Moriah White Sept 2019 – Sept 2021
- Leanna Reynolds Jan 2019 – June 2022
- Amanda Fortin Sept 2020 – June 2022

Undergraduate Thesis Committee: Boston University

- Amanda Fortin Jul 2017 – July 2021

Undergraduate Research Assistants: Wilfrid Laurier University

- Briana Renda Sep 2015 – Apr 2017
- Holt Messner Jun 2015 -Dec 2015
- Katarina Mandic May 2014 -Apr 2015
- Anuj Patel May 2013 – Aug 2013

Independent Research Project: Wilfrid Laurier University

- Rachel Lackie Dec 2013 - Apr 2014
- Sarah Gomes Sep 2012 - Apr 2013

Graduate Comprehensive Project: Wilfrid Laurier University

- Adam Celewski Nov 2013 - Apr 2014

### Undergraduate Student Thesis: Wilfrid Laurier University

- Sarah Gomes

Sep 2013 - Apr 2014

### Student Internship: University of Guelph

- Lesley O'Brien
- Melissa Eisen
- Richard Flic
- Kelsy Ervin
- Carin Waslo

Jan 2010 -Apr 2010  
Oct 2009 -Apr 2010  
Oct 2009 -Apr 2010  
Sept 2009 -Dec 2009  
Apr 2009 -Aug 2009

### Student Volunteer: University of Toronto at Mississauga

- Neeru Kapur

April 2007-Sept 2007

## PROFESSIONAL SERVICE & OUTREACH

Volunteer: Paws and Claws Cat Rescue

June 2023 – present

Member: Promotion and Tenure Guidelines Committee, Loyola University Chicago

Feb 2023 – present

Mentor: University of Toronto at Mississauga Women in Science and Computing Club

Feb 2023 – present

Founder / Faculty Advisor: Loyola Women in Neuroscience Association (LWiN)

Oct 2022 – present

Founder / Faculty Advisor: Loyola Learning and Memory Association (LLAMA)

Sept 2022 – present

Contributor: Skype a Scientist

Jan 2021 – present

Content Creator: Science in Crayon

Jan 2021 – present

Founder & Event Organizer: Annual Memory Messabout Meeting

Nov 2017 – present

Graduate Student Representative: Animal Care Committee, Wilfrid Laurier University

Sept 2014 – Aug 2016

Organizer: Southern Ontario Neuroscience Conference, Wilfrid Laurier University

May 2014

### Ad Hoc Reviewer

Trends in Neuroscience

Neuropsychopharmacology

Behavior Research Methods

Progress in Neurobiology

Brain Sciences

Cellular and Molecular Life Sciences

PLOS Biology

Marine and Freshwater Behaviour and Physiology

Philosophical Transactions of the Royal Society B

### Memberships in Professional Societies

Faculty for Undergraduate Neuroscience (FUN) SfN

Society for Neuroscience (active)

Society for Biological Psychiatry (past)

Graduate Women in Neuroscience

Pavlovian Society

National Center for Faculty Development and Diversity

Med4Minorities

### Grants, Scholarships and Awards (Reviewer)

UKRI (UK Research and Innovation)

URES (Undergraduate Research and Engagement Scholarships)

American Indian Science and Engineering Society

Magis Teaching Award

## CONFERENCE POSTERS (SENIOR AUTHOR) (\*co-first author)

1. \*S.A. Arora, L.H. Edwards, M.R. Wilson, L.F. Papanikolaou, H.K. Asgarali, P. Chatterjee, S. Cañuelas del Valle, A. Stratmann, M.M. McAnespie, S.L. Grella. The role of cocaine associated memories in driving relapse and drug seeking. Undergraduate Research and Engagement Symposium, Loyola University Chicago, Chicago, IL: Apr **2024**
2. \*L.F. Papanikolaou, \*M.M. McAnespie, H.K. Asgarali, S. Cañuelas del Valle, S.A. Arora, L.H. Edwards, P. Chatterjee, R. Rivera, A. Stratmann, G. Patel, S.L. Grella. Fear memory engrams in the dorsal hippocampus during fear learning and fear generalization: Implications for post-traumatic stress disorder. Undergraduate Research and Engagement Symposium, Loyola University Chicago, Chicago, IL: Apr **2024**

3. \*L.F. Papanikolaou, \*M.M. McAnespie, H.K. Asgarali, S. Cañuelas del Valle, S.A. Arora, L.H. Edwards, P. Chatterjee, R. Rivera, A. Stratmann, G. Patel, S.L. Grella. Fear memory engrams in the dorsal hippocampus during fear learning and fear generalization: Implications for post-traumatic stress disorder. *Midwestern Psychological Association Psi Chi*, Chicago, IL: Apr **2024**
4. \*L.F. Papanikolaou, \*M.M. McAnespie, H.K. Asgarali, S. Cañuelas del Valle, S.A. Arora, L.H. Edwards, P. Chatterjee, R. Rivera, A. Stratmann, G. Patel, S.L. Grella. Fear memory engrams in the dorsal hippocampus during fear learning and fear generalization: Implications for post-traumatic stress disorder. *Undergraduate Research Engagement Symposium, Loyola University Chicago*, Chicago, IL: Apr **2024**
5. \*L.H. Edwards, \*S.A. Arora, M.R. Wilson, L.F. Papanikolaou, H.K. Asgarali, P. Chatterjee, L.F. Reynolds, S. Coello, G. Patel, R. Rivera, A. Stratmann, M.M. McAnespie, S. Cañuelas del Valle, S.L. Grella. The role of cocaine and extinction-associated engrams in driving / preventing drug-seeking behavior using conditioned place preference, SfN, Washington DC: Nov **2023**
6. \*H.K. Asgarali, \*L.F. Papanikolaou, M.M. McAnespie, S.A. Arora, L.H. Edwards, P. Chatterjee, S. Cañuelas del Valle, R. Rivera, A. Stratmann, G. Patel, S.L. Grella. Locus coeruleus modulation of hippocampal fear memory traces: hippocampal flexibility and context generalization, SfN, Washington DC: Nov **2023**
7. \*M.R. Wilson, \*S.A. Arora, L.F. Papanikolaou, L.H. Edwards, S. Cañuelas del Valle, P. Chatterjee, H.K. Asgarali, R. Rivera, S.L. Grella. Does reactivation of hippocampal drug-related engrams serve as a re-experiencing effect of the drug-related state including locomotor sensitization effects, or are these separate? SfN, Washington DC: Nov **2023**

#### CONFERENCE POSTERS (FIRST AUTHOR)

1. Grella SL, Fortin AH, Bladon JH, McKissick O, Zaki Y, Doucette E, Merfeld E, Shpokayte M, Murawski NJ & Ramirez, S. Perturbations of dorsal hippocampal ensembles disrupts memory stability. SfN, Chicago: Oct **2019**
2. Grella SL, Fortin AH, Bladon JH, Murawski NJ, Zaki Y, Doucette E, Merfeld E, Shpokayte M, & Ramirez, S. Reactivating hippocampus-mediated memories to disrupt the reconsolidation of fear. SfN, San Diego: Oct **2018**
3. Grella SL, Fortin AH, Zaki Y, Murawski NJ, Merfeld E, Shpokayte M, & Doucette E, Ramirez, S. Reactivating hippocampus-mediated memories to disrupt the reconsolidation of fear. *International Conference on Learning and Memory*, Irvine, CA: Apr **2018**
4. Grella SL, Zaki Y, Murawski NJ, Fortin AH, Merfeld E, Shpokayte M, & Doucette E, Ramirez, S. Reactivating hippocampus-mediated memories to disrupt the reconsolidation of fear. SfN Washington DC: Nov **2017**
5. Grella SL, Neil J, Strong VD, Odintsova IV, Martin G, Harley CW, & Marrone DF. Norepinephrine as a memory reset signal: phasic activation of the locus coeruleus drives global remapping in the hippocampus. *Gordon Research Conference: Catecholamines*, Newry, ME: Aug **2017**
6. Grella SL, Zaki, Murawski NJ, Doucette E, Merfeld E, Shpokayte M, & Ramirez, S. Reactivating hippocampus-mediated memories to disrupt the reconsolidation of fear. Invited to present at The Boston Area Neuroscience Group, Boston: Jun **2017**
7. Grella SL, Neil J, Strong VD, Odintsova IV, Martin G, Harley CW, & Marrone DF. Norepinephrine as a memory reset signal: phasic activation of the locus coeruleus drives global remapping in the hippocampus. **Invited to present at The Evelyn McKnight Brain Institute Social**: San Diego CA: Nov **2016**
8. Grella SL, Guigueno MF, White DJ, Sherry DF, & Marrone DF. Contextually mediated zenk expression in the hippocampal formation of the male brown-headed cowbird (*Molothrus ater*). SfN, Chicago IL: Oct **2015**
9. Grella SL, Guigueno MF, White DJ, Sherry DF, & Marrone DF. Context-specific place-like cells are recruited in the hippocampal formation of the male brown-headed cowbird (*Molothrus ater*). *Southern Ontario Neuroscience Association (SONA) Conference (SfN chapter)*, Hamilton, ON: May **2015**
10. Grella SL, Neil J, Odintsova I, Martin G, Harley CW, & Marrone DF. Phasic and tonic activation of the locus coeruleus induces global remapping in the dentate gyrus. SfN, Washington, DC: Nov **2014**
11. Grella SL, Edison HT, Neil J, Odintsova I, Harley CW, & Marrone DF. Phasic and tonic activation of the locus coeruleus induces global remapping in the dentate gyrus. *SONA Conference (SfN chapter)*, Western University, London, ON: May **2014**



12. Grella SL, Schmidt BJ, Gomes SM, Satvat E, Argraves M, Markus EJ, & Marrone DF. Arc expression in the prefrontal cortex following shifts in cognitive strategy with a fixed trajectory. SfN, San Diego, CA: Nov **2013**
13. Grella SL, Schmidt BJ, Satvat E, Argraves M, Markus EJ, & Marrone DF. Prefrontal arc expression during a spatial and non-spatial navigation task with identical trajectory. SfN, New Orleans, LA: Oct **2012**
14. Grella SL, Ervin K, & Leri F. Factors affecting acute stress-induced reinstatement of heroin seeking in rats. SONA Conference (SfN chapter), Brock University, St. Catherine's, ON: May 9, **2010**
15. Grella SL, Ervin K, & Leri F. Factors affecting acute stress-induced reinstatement of heroin seeking in rats. Neuroscience Day Arboretum Conference, University of Guelph, Guelph, ON: Apr 9, **2010**
16. Grella SL, Levy A-M, Djazayeri S, & Leri F (2010) Thinking outside the place-conditioning box. Canadian Association for Neurosciences Meeting, Ottawa, ON: May **2010**
17. Grella SL, Allen CP, & Leri F. The Effect of acute stress on heroin self-administration after withdrawal and extinction. SfN Meeting, Chicago, IL: Oct **2009**
18. Grella SL & Leri F. The effect of acute stress on reacquisition of heroin self-administration. SONA Conference (SfN chapter), McMaster University, Hamilton, ON: May **2009**
19. Grella SL & Leri F. The effect of acute stress on reacquisition of heroin self-administration. Neuroscience Day Arboretum Conference, University of Guelph, Guelph, ON: Apr **2009**

### CONFERENCE POSTERS (NON-FIRST AUTHOR)

1. Shpokayte M, McKissick OP, Rahsepar B, Fernandez FR, Ruesch E, **Grella SL**, Suthard R, Liu S, Ramirez S. Hippocampal cells multiplex positive and negative engrams in healthy and maladaptive states. SfN, Virtual: Nov **2021**
2. Fortin AF, **Grella SL**, McKissick O, Leblanc H, Ramirez S. Odor modulates the temporal dynamics of memory consolidation. Society for Biological Psychiatry, New York, Apr **2020** (canceled - Covid-19)
3. Finkelstein AB, Hamidi A, Zaki Y, Merfeld E, **Grella SL**, Murawski NJ, Shpokayte M, & Ramirez S. Manipulating a social ensemble to modulate socially induced reinstatement of a contextual fear memory. SfN, San Diego: Oct **2018**
4. Cincotta C, Murawski NJ, **Grella SL**, Doucette E, Merfeld E, Shpokayte M, Zaki Y, Hamidi A, Dorst K, & Ramirez S. Optogenetic induced extinction-like behaviors in ethanol withdrawn mice. SfN, San Diego: Oct **2018**
5. Shpokayte M, McKissick O, Liu SX, **Grella SL**, Doucette E, Merfeld E, Murawski NJ, Zaki Y, Finkelstein AB, & Ramirez S. Population and projection-specific segregation of fear and reward in the ventral hippocampus. SfN, San Diego: Oct **2018**
6. Doucette E, Merfeld E, Logan J, Zaki Y, **Grella SL**, Murawski NJ, Shpokayte M, Hamidi A, Dorst K, Finkelstein AB & Ramirez, S. Chronically reactivating positive and negative memories to modulate hedonic and social behaviors. SfN, San Diego: Oct **2018**
7. Mau W, Zaki Y, Hamidi A, Doucette E, **Grella SL**, Murawski NJ, Merfeld E, Shpokayte M, & Ramirez S. Visualization and modulation of ensembles in the hippocampus and amygdala during fear reinstatement. SfN, San Diego: Oct **2018**
8. Doucette E, Merfeld E, Zaki Y, **Grella SL**, Murawski NJ, Shpokayte M, & Ramirez, S. Chronically reactivating positive and negative memories to modulate hedonic and social behaviors. SfN, Washington DC: Nov **2017**
9. Murawski NJ, Chen B, **Grella SL**, Shpokayte M, Merfeld E, Zaki Y, Doucette E, & Ramirez, S. Artificially enhancing or suppressing hippocampus-mediated fear memories. SfN, Washington DC: Nov **2017**
10. Zaki Y, Doucette E, **Grella SL**, Murawski NJ, Merfeld E, Shpokayte M, & Ramirez, S. Inhibiting ensembles in the hippocampus and amygdala to suppress reinstatement-induced fear. SfN, Washington DC: Nov **2017**
11. Shpokayte M, **Grella SL**, Murawski NJ, Zaki Y, Doucette E, Merfeld E, & Ramirez, S. Activating ventral hippocampus to amygdala terminals processing fear and reward. SfN, Washington DC: Nov **2017**
12. Murawski NJ, Chen B, **Grella SL**, Shpokayte M, Merfeld E, Zaki Y, Doucette E, & Ramirez S. Artificially enhancing or suppressing hippocampus mediated fear memories. Boston Area Neuroscience Group, Boston: Jun **2017**
13. Zaki Y, Doucette E, **Grella SL**, Murawski NJ, Merfeld E, Shpokayte M, & Ramirez, S. Inhibiting ensembles in the hippocampus and amygdala to suppress reinstatement-induced fear. Boston Area Neuroscience Group, Boston: Jun **2017**

14. Renda B, **Grella SL**, Gomes SM, & Marrone DF. Effects of isoproterenol in the dentate gyrus on spatial memory retrieval and reversal learning. SfN, San Diego CA: Nov **2016**
15. Gallitano AL, Maple AM, Lackie R, Elizalde S, **Grella SL**, & Marrone DF. Attenuated late-phase Arc transcription in the dentate gyrus of mice lacking Egr3. SfN, San Diego CA: Nov **2016**
16. Gomes SM, **Grella SL**, Schmidt BJ, Satvat E, Markus EJ, & Marrone DF. IEG expression in the prefrontal cortex following contextual alterations and shifts in cognitive strategy. SONA Conference (SfN chapter), McMaster University, London, ON: May **2014**
17. Gomes SM, **Grella SL**, & Marrone DF. The role of norepinephrine in the dentate gyrus of the hippocampus during a delayed-non-match-to-position task involving pattern separation. Stanford Undergraduate Conference, Stanford, CA: May **2014**
18. Lackie R, **Grella SL**, Gomes SM, & Marrone DF. The role of norepinephrine in the dentate gyrus during a delayed non-match to position task involving pattern separation. SONA Conference (SfN chapter), McMaster, London, ON: May **2014 - Poster award**
19. Gomes SM, **Grella SL**, Schmidt BJ, Satvat E, Argraves M, Markus EJ, & Marrone DF. Prefrontal arc expression during a spatial & non-spatial navigation task with identical trajectory. SONA Conference (SfN chapter), Wilfrid Laurier Univ., Waterloo, ON: May **2013**
20. Johnson SA, Sediqzadah S, **Grella SL**, Nobrega JN, & Erb S. Cocaine-associated contextual cues increase c-fos mRNA expression in the basolateral amygdale and prefrontal cortex after extended drug-free periods. SfN, San Diego, CA: Nov **2010**
21. Afonso V, **Grella SL**, Chatterjee D, & Fleming AS. Maternal experiences affect mesolimbic dopaminergic neuronal activity in the non-lactating rat: a microdialysis study. Society for Behavioural Neuroendocrinology Meeting, Pittsburgh, PA: Jun **2006**
22. Afonso V, **Grella SL**, Chatterjee D, & Fleming AS. Maternal experiences affect mesolimbic dopaminergic neuronal activity in the non-lactating rat: a microdialysis study. SfN, Atlanta, GA: Oct **2006**

## SPECIALIZED TRAINING

- Neuroimaging (in vivo calcium imaging) Workshop May 2024
- Harassment Prevention and Title IX Training, Loyola University Chicago Nov 2022
- Animal User and Laboratory Safety Training, Loyola University Chicago Sep 2022
- Virtual Miniscope Workshop, MetaCell & The Miniscope Team (zoom) Nov 2021
- Preventing Harassment and Discrimination, Boston University Sep 2021
- Core Competency Module for Sex and Gender in Biomedical Research, CIHR Sep 2021
- Biological Shipping, Boston University Jan 2020
- Optical Imaging and Electrophysiology Course, Paris Descartes University May 2019
- Animal User and Laboratory Safety Training, Boston University Jul 2017
- Animal Care and Use Course, Harvard University Nov 2016
- Animal Care & Use Course, University of Western Ontario Feb 2014
- Surgical Modules, Wilfrid Laurier University May 2013
- Animal Handling & Injection Techniques May 2012
- Canadian Council on Animal Care Modules 1-12 May 2012
- WHIMIS Training & Laboratory Safety, Wilfrid Laurier University May 2012
- Animal Care Course, Centre for Addiction and Mental Health Sept 2010
- Radiation Safety Training for Radioactive Isotopes, EHS, University of Toronto Jul 2009
- Animal Surveillance Technician Training, University of Guelph Mar 2008
- Intravenous Catheter Surgical Implant Training Assessment, University of Guelph Aug 2008
- Animal User Training Program, University of Guelph Jul 2008
- Certification, Fish, Amphibians and Reptiles Workshop, University of Toronto Nov 2006
- Short Course: Using Zebra Fish to Study Neuroscience, SfN Oct 2006
- Certification, Rodent Handling and Care, University of Toronto Nov 2004

## MEDIA

- The Transmitter "[Creating a false memory in the hippocampus](#)" Feb 2024
- "Brain on Brains "[From PTSD to CTE](#)" Feb 2024
- STEAM ID Feature Apr 2023
- Chicago Society for Neuroscience Annual Meeting: Image chosen for program cover Mar 2023
- Biomedical Picture of the Day Nov 2022

<a href="#"><u>"Negative Fearful Memories and Positive Memories Are in Distinct Cell Networks in the Hippocampus"</u></a>	
Medical News Today – <a href="#"><u>"Can We Rewrite Fear Memories to Treat Anxiety?"</u></a>	Oct 2022
Rick Hanson – <a href="#"><u>Science News Archives</u></a>	Oct 2022
Guest Speaker: Virginia Tech - Science Careers	Oct 2022
EurekaAlert! <a href="#"><u>"Unlocking the Power of Emotional Memory"</u></a>	Oct 2022
News Caf <a href="#"><u>"Unlocking the Power of Emotional Memory"</u></a>	Oct 2022
The Better Parent <a href="#"><u>"Unlocking the Power of Emotional Memory"</u></a>	Oct 2022
UtterBuzz <a href="#"><u>"Unlocking the Power of Emotional Memory"</u></a>	Oct 2022
TechiLive <a href="#"><u>"Unlocking the Power of Emotional Memory"</u></a>	Oct 2022
Scoop It! <a href="#"><u>"Unlocking the Power of Emotional Memory"</u></a>	Oct 2022
Science Daily <a href="#"><u>"Unlocking the Power of Emotional Memory"</u></a>	Oct 2022
The Brink <a href="#"><u>"Unlocking the Power of Our Emotional Memory"</u></a>	Oct 2022
NIH Director's Blog - <a href="#"><u>The Amazing Brain. Seeing Two Memories at Once.</u></a>	Aug 2022
Brain Research Through Advancing Innovative Neurotechnologies® (BRAIN) Initiative	Jun 2022
First place photo winner for the NIH BRAIN Initiative Show Us Your BRAINS! Photo and Video Contest	Jun 2022
<a href="#"><u>The Intersection of Memory and Memory: Two memories captured under the microscope.</u></a>	
Peering into the hippocampus of a mouse using viral technology and optogenetics.	
Images chosen for display at the NIH NINDS Office of the Director	Jun 2022
Guest speaker: Wilfrid Laurier University Women in Neuroscience Interview Series	Feb 2022
"The Memory Thief" by Lauren Aguirre – Confocal images featured	Jun 2021
A-Zed Creative: Faulty Channels, Inkonst Art Studio, Malmö, Sweden	Mar 2021
<a href="#"><u>"Kindly Remind Me of My Presence"</u></a>	
Scienmag <a href="#"><u>"Can Memory Manipulation Help Treat Alcohol Addiction?"</u></a>	Nov 2020
EurekaAlert! <a href="#"><u>"Can memory manipulation help treat alcohol addiction?"</u></a>	Nov 2020
BU Experts <a href="#"><u>Can Memory Manipulation Help Treat Alcohol Addiction?</u></a>	Oct 2020
National Geographic 2021 Almanac p.262-263 <a href="#"><u>"Understanding the Brain"</u></a>	Sept 2020
Learning & Memory Cover Article <a href="#"><u>"Odor Modulates the Temporal Dynamics of Fear Memory Consolidation"</u></a>	Apr 2020
Sciencebeta <a href="#"><u>"Odor Changes How the Brain Processes Memories"</u></a>	Mar 2020
EurekaAlert <a href="#"><u>"Scents Alter How Memories Are Processed in the Brain"</u></a>	Mar 2020
The Health Site <a href="#"><u>"Power of Scent May Alter How Memories Are Processed in the Brain"</u></a>	Mar 2020
Times Now News <a href="#"><u>"Power of Scents Can Alter How Memories Are Processed in the Brain"</u></a>	Mar 2020
New Kerala <a href="#"><u>"Power of Scents Can Alter How Memories Are Processed in the Brain"</u></a>	Mar 2020
Environmental News Network <a href="#"><u>"It's True, Scent Really Does Have Power Over Memory"</u></a>	Mar 2020
NY Post <a href="#"><u>"Scents Alter How Memories Are Processed in the Brain"</u></a>	Mar 2020
Fox News <a href="#"><u>"Scents Alter How Memories Are Processed in the Brain"</u></a>	Mar 2020
Science Codex <a href="#"><u>"Scents Alter How Memories Are Processed in the Brain"</u></a>	Mar 2020
Lab Manager <a href="#"><u>"Scents Alter How Memories Are Processed in the Brain"</u></a>	Mar 2020
Business Standard <a href="#"><u>"Power of Scents Can Alter How Memories Are Processed in the Brain"</u></a>	Mar 2020
News Medical <a href="#"><u>"Odors Alter How Memories are Processed in the Brain"</u></a>	Mar 2020
Cosmos <a href="#"><u>"Linking Scents to Memories"</u></a>	Mar 2020
Futurity <a href="#"><u>"Smell May Shape How Brain's Process Memory"</u></a>	Mar 2020
Hindustan Times <a href="#"><u>"Scents, Aromas, and Odors Can Affect Memories; Alter How the Brain Processes Them"</u></a>	Mar 2020
Technology Networks Article <a href="#"><u>"The Scents that Spark Our Memories"</u></a>	Mar 2020
Medical X-Press <a href="#"><u>"Odors Alter How Memories Are Processed in the Brain"</u></a>	Mar 2020
The Brink: Boston University <a href="#"><u>"It's True, Scent Really Does Have Power Over Memory"</u></a>	Mar 2020
NIH Director's Blog <a href="#"><u>"What a Memory Looks Like"</u></a>	Nov 2019
National Post <a href="#"><u>"If You Could Erase the Worst Memory..."</u></a>	Nov 2019
The Asian Age Article <a href="#"><u>"Now, Teach Your Brain to Suppress Bad Memories"</u></a>	Jul 2019
Gilmore Health News: <a href="#"><u>"A Way to Suppress or Enhance Memory Could Become Possible Soon"</u></a>	Jun 2019
TechsMe Article: <a href="#"><u>"How to Enhance or Suppress Memories"</u></a>	May 2019
Yahoo News / ANI Article: <a href="#"><u>"Manipulating Memories Could Become a Reality Someday"</u></a>	May 2019
Biotechniques Article: <a href="#"><u>"Manipulating Memories"</u></a>	May 2019
New Atlas Article: <a href="#"><u>"The Incredible Science Exploring How to Edit Our Memories"</u></a>	May 2019
Innovation Toronto Article:	May 2019
<a href="#"><u>"What if Scientists Could Manipulate Your Brain So That a Traumatic Memory Lost its Emotional Power ?"</u></a>	
Tech Times Article: <a href="#"><u>"Stimulating Parts of the Brain May Enhance or Suppress Memories"</u></a>	May 2019
Outer Places Article:	May 2019
<a href="#"><u>"Eternal Sunshine of the Spotless Mind: Scientists Discover How to Enhance and Suppress Memories with Uncanny Accuracy"</u></a>	
Boston University Article: <a href="#"><u>"Proof It's Possible to Enhance or Suppress Memories"</u></a>	May 2019
Wired Article: <a href="#"><u>"Scientists Find a Volume Knob for Emotional Memories"</u></a>	May 2019
National Geographic - Article <a href="#"><u>"This Neuroscientist Makes Memories and Suppresses Them"</u></a>	Feb 2019
Interview for Brains On! Podcast Episode <a href="#"><u>"Memory &amp; Deja Vu"</u></a> Feb 2019	
Journal of Neuroscience-This Week in the Journal - <a href="#"><u>Role of Locus Coeruleus in Encoding New Contexts</u></a>	Jan 2019
Interview for National Geographic - <a href="#"><u>Article "Memories Can Be Altered in Mice. Are Humans Next?"</u></a>	July 2018
SfN Abstract selected as a Neuroscience 2017 <a href="#"><u>"Hot Topic"</u></a>	Aug 2017
Laurier to recognize teaching assistants with <a href="#"><u>awards of excellence</u></a>	May 2016

